

LISTING OF CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A sorption cooling apparatus comprising:
a thermally insulated cooling container defining an inner chamber for containing an item to be cooled by the sorption cooling apparatus and including a door for opening and closing said inner chamber;
a sorber container disposed outside the cooling container, said sorber container containing a sorbent material for sorbing a working fluid during a sorption phase;
an evaporator disposed inside said inner chamber of the cooling container, said working fluid evaporating to a working fluid gas in said evaporator during a desorption phase;
a valve connected between said sorber container and said evaporator, said valve being adapted to be shut off for stopping a flow of said working fluid gas;
an evaporator blower disposed adjacent said evaporator in said inner chamber of said cooling container for passing an air stream over said evaporator; and
a sorber blower disposed adjacent said sorber container for circulating air around said sorber container containing said sorbent material.
2. (Original) A sorption cooling apparatus as defined in Claim 1, wherein at least one of said sorber container and said evaporator includes surfaces shaped like plates and are adapted for exchanging heat with a stream of air.
3. (Original) A sorption cooling apparatus as defined in Claim 1, wherein said valve is a control valve for controlling a temperature of said evaporator by means of throttling a stream of working fluid gas.

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4. (Original) A sorption cooling apparatus as defined in Claim 1, wherein said sorber container is adapted to ensure that a maximum heat conduction path to a surface of the cooling container is less than 2 cm.

5. (Original) A sorption cooling apparatus as defined in Claim 1, further comprising an electrical heating system dedicated to said sorber container.

6. (Original) A sorption cooling apparatus as defined in Claim 1, further comprising an electrical accumulator for supplying electricity to said sorber blower and said evaporator blower.

7. (Original) A sorption cooling apparatus as defined in Claim 1, wherein said sorbent material comprises zeolite and said working fluid comprises water.

8. (Original) A sorption cooling apparatus as claimed in Claim 5, further comprising a temperature sensor coupled to said evaporator for turning off said electrical heating system of said sorber container once a preselected threshold temperature has been exceeded.

9. (Previously Presented) A sorption cooling apparatus for cooling a thermally insulated cooling container comprising:

a sorber container containing a sorbent material for sorbing a working fluid during a sorption phase;

an evaporator disposed inside the cooling container, said working fluid evaporating to a working fluid gas in said evaporator during a desorption phase;

a valve connected between said sorber container and said evaporator, said valve being adapted to be shut off for stopping a flow of said working fluid gas;

an evaporator blower disposed adjacent said evaporator for passing an air stream over said evaporator;

a sorber blower disposed adjacent said sorber container for circulating air around said sorber container containing said sorbent material; and

a safety device for preventing the desorption phase from taking place when a door of the cooling container is closed.

10. (Currently Amended) A method for cooling a thermally insulated cooling container with a sorption cooling apparatus, the method comprising the steps of:

providing a sorber container outside the cooling container;

providing an evaporator inside an inner chamber of the cooling container, said inner chamber being adapted for containing an item to be cooled by the sorption cooling apparatus;

sorbing a working fluid with a sorbent material contained in the sorber container of the sorption cooling apparatus during a sorption phase;

evaporating said working fluid to a working fluid gas in the evaporator of the sorption cooling apparatus during a desorption phase, said evaporator being disposed inside the cooling container;

controlling a flow of working fluid gas between said sorber container and said evaporator with a valve of the sorption cooling apparatus; and

passing an air stream from outside said cooling container over said evaporator with an evaporator blower of the sorption cooling apparatus during said desorption phase; and

~~circulating air around said sorbent container with a sorber blower of the sorption cooling apparatus.~~

11. (Original) A method for cooling a thermally insulated cooling container as defined in Claim 10, further comprising the step of controlling an internal temperature of the cooling container during the sorption phase by operating said evaporator blower in a switching mode and opening said valve.

12. (Original) A method for cooling a thermally insulated cooling container as defined in Claim 10, further comprising the step of operating said sorber blower in a switching mode synchronously with said evaporator blower.

13. (Original) A method for cooling a thermally insulated cooling container as defined in Claim 10, further comprising the steps of:

supplying electricity to said sorber blower and said evaporator blower with an electrical accumulator of the sorption cooling apparatus; and
charging said electrical accumulator during the desorption phase.

14. (Currently Amended) A method for cooling a thermally insulated cooling container with a sorption cooling apparatus comprising the steps of:

sorbing a working fluid with a sorbent material contained in a sorber container of the sorption cooling apparatus during a sorption phase, said sorber container being disposed on an upper outer surface of the cooling container;

evaporating said working fluid to a working fluid gas in an evaporator of the sorption cooling apparatus during a desorption phase, said evaporator being disposed on a ceiling inside the cooling container below said sorber container;

controlling a flow of working fluid gas between said sorber container and said evaporator with a valve of the sorption cooling apparatus;

passing an air stream over said evaporator with an evaporator blower of the sorption cooling apparatus; and

circulating air around said sorbent container with a sorber blower of the sorption cooling apparatus,

wherein the sorption phase is at least three times longer than the desorption phase.

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15. (Currently Amended) A method for cooling a thermally insulated cooling container with a sorption cooling apparatus comprising the steps of:

sorbing a working fluid with a sorbent material contained in a sorber container of the sorption cooling apparatus during a sorption phase, said sorber container being disposed on an upper outer surface of the cooling container;

evaporating said working fluid to a working fluid gas in an evaporator of the sorption cooling apparatus during a desorption phase, said evaporator being disposed on a ceiling inside the cooling container below said sorber container;

controlling a flow of working fluid gas between said sorber container and said evaporator with a valve of the sorption cooling apparatus;

passing an air stream over said evaporator with an evaporator blower of the sorption cooling apparatus; and

circulating air around said sorbent container with a sorber blower of the sorption cooling apparatus; and

setting the air temperature inside the cooling container between minus 20°C and 0°C during the sorption phase.

16. (Original) A method for cooling a thermally insulated cooling container as defined in Claim 10, wherein said working fluid is condensed in said evaporator and heat of condensation from said working fluid is released to said air stream generated by said evaporator blower during the desorption phase.

17. (Original) A method for cooling a thermally insulated cooling container as defined in Claim 10, further comprising the step of opening a door of the cooling container during the desorption phase, wherein an exchange of air with ambient air takes place.

18. (Canceled)

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19. (Currently Amended) A method for cooling a thermally insulated cooling container as defined in Claim 10, wherein said cooling container includes a door for opening and closing ~~accessing~~ said inner chamber.

20. (New) A sorption cooling apparatus as defined in Claim 1, wherein said cooling container includes an upper outer surface and an inner ceiling inside said inner chamber below said upper outer surface, said sorber container being disposed on said upper outer surface and said evaporator being disposed on said inner ceiling.

21. (New) A sorption cooling apparatus as defined in Claim 1, further comprising an air baffle plate disposed adjacent said evaporator for screening said evaporator against said inner chamber of said cooling container.